

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: HARPER, STEPHEN D.  
HENKEL CORPORATION  
2500 RENAISSANCE BOULEVARD; SUIT 200  
GULPH MILLS, PA. 19406

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
(day/month/year)

**24 OCT 2001**

Applicant's or agent's file reference  
M6726 HST/NI

#### IMPORTANT NOTIFICATION

International application No.  
PCT/US00/24930

International filing date (day/month/year)  
12 SEPTEMBER 2000

Priority Date (day/month/year)  
13 SEPTEMBER 1999

Applicant  
HENKEL CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.


Name and mailing address of the IPEA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

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Authorized officer

JOSEPH D. ANTHONY

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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference M6726 HST/NI	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/24930	International filing date (day/month/year) 12 SEPTEMBER 2000	Priority date (day/month/year) 13 SEPTEMBER 1999
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant HENKEL CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

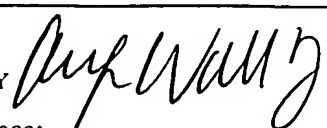
2. This REPORT consists of a total of 3 sheets.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  08 FEBRUARY 2001	Date of completion of this report  08 SEPTEMBER 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  JOSEPH D. ANTHONY 
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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/24930

**I. Basis of the report**

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed☒ the description:

pages 1-19, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_

☒ the claims:

pages 20-21, as originally filed  
pages NONE, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_

☒ the drawings:

pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_

☒ the sequence listing part of the description:

pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE  
☒ the claims, Nos. NONE  
☒ the drawings, sheets/fig NONE

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/24930

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. statement**

Novelty (N)	Claims	<u>1-9</u>	YES
	Claims	<u>NONE</u>	NO
Inventive Step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-9</u>	NO
Industrial Applicability (IA)	Claims	<u>1-9</u>	YES
	Claims	<u>NONE</u>	NO

**2. citations and explanations (Rule 70.7)**

Claims 1-9 lack an inventive step under PCT Article 33(3) as being obvious over ADANIYA et al. U.S. Patent Number 4,775,600. Adaniya et al discloses highly corrosion resistant surface treated steel plates. The steel plates are coated with an aqueous resin compositions comprising: 1) a modified epoxy resin that contains at least one basic nitrogen atom and at least two primary hydroxy groups, silica such as fumed silica, and 3) a silane compound as the crosslinking agent for the epoxy resin and silica, see the abstract, column 5, lines 4-28, column 8, lines 58-66, column 10, lines 49-67 the examples and the claims. The disclosed concentration ranges for components 1, 2 and 3 are all deemed to overlap applicant's claimed concentration ranges. Adaniya et al. differs from applicant's claimed invention in that there is no direct teaching (i.e. by way of an example) to where the aqueous epoxy resin composition containing fumed silica also contains a silane compound.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Adaniya et al as motivation to actually incorporate a silane compound into the aqueous resin compositions taught in Adaniya et al's examples, since Adaniya et al. directly suggests the use of silane as a crosslinking agent for the epoxy resin and silica.

Claims 1-9 lack an inventive step under PCT Article 33(3) as being obvious over SUJITA et al. U.S. Patent Number 5,723,210 and TSUNETA et al. 5,213,846, both patents individually in view of ADANIYA et al. U.S. Patent Number 4,775,600.

Sujita et al discloses organic composite coated steel sheets. The steel sheets are coated with an aqueous composition comprising: 1) an epoxy resin, urethane resin or and acrylic resin, 2) silica particles, and 3) optional ingredients, see abstract, column 7, lines 7-25, examples, and claims.

Tsuneta et al discloses corrosion resistant coating compositions. The aqueous compositions comprise: 1) bisphenol type epoxy resin, 2) silica particles, and 3) optional ingredients, see the abstract, column 4, lines 9-51, examples, (Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 5-8 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claims are indefinite for the following reason(s): It is held by the examiner that the word "and" in line 5 of each of claims 5-8 should be replaced by the word --or-- in order for the claims to make sense.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/24930

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**CLASSIFICATION:**

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): C23C 22/00; C94B 9/02; C09K 3/00; B05D 1/18; B01F 17/00 and US Cl.: 148/251; 106/14.11,14.21; 252/389.2, 389.23; 427/435,436; 428/626,220; 516/55,78

**V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):**  
and claims.

Sujita et al. and Tsuneta et al. both differ from applicant's claimed invention in that they do not seem to disclose the further addition of a silane compound to their aqueous resin compositions.

Adaniya et al. has been described above.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Adaniya et al. to the use of a silane compound as an effective crosslinking agent for epoxy resins and silica as motivation to actually add a silane compound to the aqueous resin compositions disclosed by Sujita et al. and Tsuneta et al..

Claims 1-9 have novelty as define under PCT Articl 33(2).

Claims 1-9 have industrial applicability as define under PCT Articl 33(4).

----- NEW CITATIONS -----

NONE

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/24930

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C23C 22/00; C04B 9/02; C09K 3/00; B05D 1/18; B01F 17/00

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : Please See Extra Sheet.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
USPAT in WEST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,775,600 A (ADANIYA et al.) 04 October 1988, see the abstract, examples and claims.	1-9
X	US 4,889,775 A (ADANIYA et al.) 26 December 1989, see the abstract, examples and claims.	1-9
Y	US 5,723,210 A (SUJITA et al.) 03 March 1998, see the abstract, examples, and claims.	1-9
Y	US 5,514,483 A (SUJITA et al.) 07 May 1996, see the abstract, examples, and the claims.	1-9
Y	US 5,213,846 A (TSUNETTA et al.) 25 May 1993, see the abstract, examples, and claims.	1-9

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

30 NOVEMBER 2000

Date of mailing of the international search report

02 JAN 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
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Washington, D.C. 20231

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JOSEPH D. ANTHONY *Joseph D. Anthony*

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/24930

## A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

148/251; 106/14.11,14.21; 252/389.2, 389.23; 427/435,436; 428/626,220; 516/55,78

## B. FIELDS SEARCHED

Minimum documentation searched

Classification System: U.S.

148/251; 106/14.11,14.21,1.29,1.25,14.21,14.14,14.44,14.45,425,430; 252/389.2, 389.23,389.3,389.52;  
427/435,436,192,191,195,190,203,205,208.8,405,409,419.1; 428/626,220,632; 516/55,78,90,79



## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

Date of mailing (day/month/year) 27 November 2001 (27.11.01)	
International application No. PCT/US00/24930	Applicant's or agent's file reference M6726 HST/NI
International filing date (day/month/year) 12 September 2000 (12.09.00)	Priority date (day/month/year) 13 September 1999 (13.09.99)
Applicant KINOSHITA, Yasuhiro et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
 08 February 2001 (08.02.01)

☐ in a notice effecting later election filed with the International Bureau on:  
 \_\_\_\_\_

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer ALI SOLEIMAN Telephone No.: (41-22) 338.83.38
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